Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at http://about.jstor.org/participate-jstor/individuals/early-journal-content.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

When the buds in the axils develop so as to form side branches, the character of the foliage wholly changes. The whorls then consist of five leaves, and these are narrowly lanceolate or subulate. I have said when the buds in the axils develop, but there is commonly but one branch from the whorl of four leaves. Three buds remain dormant, if they exist at all, so that the branches have a forked character. In the following stage there are six leaves in the whorl.

There is no intermediate stage between the large round-leaved verticil of four, and the subsequent narrow four-leaved whorls. *Natura non facit saltus* does not apply in this case.

In the early quaternary condition of the foliage, one cannot fail to note the similarity between many *Galiums* with broad, roundish leaves, of which *Galium circæzans* may be named as the type, and the subsequent growth to that of other *Galiums* with harder and rigid leaves.

The "unfinished business" was to examine how far these facts might help us to understand the genesis of *Galium*. The dimorphism in the foliage is interesting, though we find no dimorphic flowers.

THOMAS MEEHAN.

Index to Recent American Botanical Literature.

Æcidium on Juniperus Virginiana.—W. G. Farlow. (Bot. Gazette, xii., pp. 205-207.)

In this paper Prof. Farlow describes a new species of *Æcidium* (*Æ. Bermudianum*), from specimens collected by himself in 1881 in Bermuda, and others this year in Mississippi, by F. S. Earle, growing on *Juniperus Bermudiana*, and *J. Virginiana.*

Botanical Bonanza.—F. E. Boynton. (Pop. Sci. Month., xxxi., pp. 653, 654.)

An enthusiastic note on the flora of the region twenty miles around the point where North and South Carolina and Georgia come together.

Calochortus—Fertilization of.—John M. Ordway. (Papers New Orleans Acad. Sci., i., pp. 53, 54.)

Catalogue provisoire de Plantes Phanérogames et Cryptogames de la Basse-Louisiane, Etats-Unis d'Amerique.—A. B. Langlois. (Pamphlet, 8vo., pp. 35, Pointe-à-la-hâche, 1887.)

A catalogue of 1194 Phanerogams, 20 Pteridophytes, about 130 Bryophytes and a large number of Fungi, the result of the author's eight years diligent botanizing in Plaquemines Co., Louisiana. The list is prefaced by some general remarks regarding the Flora, the great abundance of lower cryptogamous plants being explained by the great humidity. Copies of the pamphlet (which appears to have been printed in St. Etienne, France) may be had of the author for twenty-five cents.

Caulophyllum thalictroides.—C. G. Lloyd. (Drugs and Med. North Am., ii., p. 141-162; illustrated.)

Champia parvula, Harv.—On the Structure of the Frond in.—Robert Payne Bigelow. (Proc. Amer. Acad. Arts and Sci., xxiii., pp. 111-120; VII Contribution from the Cryptogamic Laboratory of the Museum of Harvard University; reprinted.)

The results obtained are as follows: The apical growth is from a cluster of cells, each of which is at the tip of one of the longitudinal filaments; each cell divides to form the adult filament and the cortex. The diaphragm and bulb-cells originate from the filaments as outgrowths, and the branches each have their origin opposite a filament.

Comparative Chemistry of Higher and Lower Plants.—Helen C. DeS. Abbott. (Amer. Nat., xxi., pp. 719-730 and 800-810; illustrated by diagrams.)

This is an abstract of a lecture delivered in April last, before several of the Washington societies on a subject which has as yet obtained but little recognition in America. Among the many interesting suggestions, we note "the largest ash-percentages are found among those plants lower in the evolutionary scale," and that the green of chlorophyll is generally darker in plants of more complex organization, though to this we might offer an exception in the dark-greens of *Anthoceras* and other Hepatics.

Curl of Peach Leaves—A Study of the Abnormal Structure, induced by Exoascus deformans.—Etta L. Knowles. (Bot. Gaz., xii., pp. 216-218; one plate.)

Desmids of the Pacific Coast.—Francis Wolle. (Bull. Cal. Acad. Sci., ii., pp. 432-437.)

A list of 82 species from near Lake Tahoe, Cal., with notes on some other fresh water Algæ.

Dispersion of Seeds of Euphorbia marginata.—J. Schneck. (Bot. Gaz., xii., pp. 225, 226.)

Describes the sudden bursting of the capsule.

Drugs and Medicines of North America.

It is announced that on the completion of Volume ii., the work will not be continued as a periodical, but will be issued in book form.

Excursion to the Platte.—Harvey Thomson. (Bot. Gaz., xii., pp. 219-221.)

A general account of the floral characters of the region.

Food and Fibre Plants of the North American Indians.—J. S. Newberry. (Pop. Sci. Month., xxxii., pp. 31-46; also reprinted, pp. 16.)

This is a paper read before the Club, Nov. 9th, 1886, but considered by the author as of too popular a nature for admission into the BULLETIN. The following plants are noted: Maize (*Zea Mays*), Beans (*Phaseolus*), Pomme blanche (*Psoralea esculenta*), Camass (*Camassia esculenta*), Biscuit-root or Couse (*Peucedanum* sp.), Ground-nut (*Apios tuberosa*), Jerusalem Artichoke (*Helianthus tuberosus*), Sunflower (*H. annuus*), *Wyethia robusta*, the various Nut Pines (*PP. Sabiniana, Coulteri, albicaulis flexilis, edulis* and its var. *monophylla, Parryana, cembroides*), Cactus fruits (species of *Opuntia, Cereus* and *Echinocactus*), *Nuphar polysepala*, Acorns (*Q. lobata* and *agrifolia*), Mezquite (*Prosopis juliflora*), *Nelumbium luteum, Zizania aquatica,* several species of *Agave*, the lichen *Evernia sarmentosa*, Sotol (*Dasylirion Texanum*), Soap Plants (*Chlorogalum pomeridianum, Yuccæ* and *Sapindus marginatus*), Berries of all kinds, Nuts, and pine bark from *P. ponderosa.* It is an important paper, as it gives Dr. Newberry's notes, made over twenty-five years ago, among many tribes of the Far West then first visited by the whites.

Forests and Climate.—Joseph F. Joor. (Papers New Orleans Acad. Sci., i., pp. 72-80.)

Forests of the United States.—Chas. Mohr. (Papers New Orleans Acad. Sci., i., pp. 19-39.)

A popular and readable article by a veteran in the study of Forestry.

Fungi from various Localities—New Species of.—J. B. Ellis and B. M. Everhart. (Journ. Mycol., iii., pp. 116-118.)

Eight new species described.

Fungi of the Pacific Coast, V.—H. W. Harkness. (Bull. Cal. Acad. Sci., ii., pp. 438-447.)

A long list of species from various parts of California and Nevada. Two new forms are described.

Gleditschia triacanthos. (Garden, xxxii., 1887, p. 304; illustrated.)

Grindelia glutinosa in Wisconsin.—W. M. Wheeler. (Science, x., p. 180.)

Reports a single plant growing along a railway.

Hypocreaceæ—Additions to.—J. B. Ellis and B. M. Everhart. Journ. Mycol., iii., pp. 113-116.)

Liriodendron tulipifera. (Garden, xxxii., p. 262.)

Manitoba—Notes on the Botany of.—R. Miller Christy, F.L.S. (Journ. Bot., xxv., pp. 271-276 and 290-301.)

A general account of the floral characters of the province.

Melanconis dasycarpa.—J. B. Ellis. (Journ. Mycol., iii., p. 118.)

Mr. Ellis suspects this species to be the same as *M. Everhartii.*

Notes concerning Development and Fertilization of Plants.—John Kruttschnitt. (Papers New Orleans Acad. Sci., i., pp. 40-52.)

A paper chiefly remarkable for its surprises and its mistakes in spelling and typography; the author has not yet been able to find pollen tubes entering the micropyle, and describes the development of a fungus (?) from a Gregarine!

Ostrich Fern (Onoclea Struthiopteris)—The Development of the.—Douglas Houghton Campbell, Ph.D. (Memoirs Boston Soc. Nat. Hist., iv., pp. 17-52, plates 4-7.)

This valuable paper comes as the successful thesis for the "Walker Prize Essay" competition of 1886, and the author is to be congratulated for his work and his reward. The first page gives an abstract of the contents, and we quote therefrom:

"The presence of a third coat in the spore. The marked diœcism displayed by the prothallia. Formation and development of the apical cell of the prothallium. Continuity of the protoplasm in the cells of the prothallium. Development of the antheridium and antherozoids. Absence of the ventral canal-cell in the archegonium. Succession of the divisions of the embryo and the establishment of the apical cells of its different members. Development of the different tissues of the embryo. Development of the leaf from the apical cell, and the relation of the different tissues of the leaf to the segments of the apical cell. Method of formation of the pinnæ. Development of the stem from the apical cell. Development of the sporangium."

"The sporangia in this fern are borne in great numbers in the back of the fertile fronds, and as these remain standing through the winter after the sterile fronds have decayed, spores can be obtained at all seasons of the year. These retain their vitality for several months after being gathered, so that when the plants are common, abundance of material is constantly on hand. This fact, together with the ease with which the spores can be germinated, makes the plant a specially valuable one for study."

Philadelphus microphyllus, Gray. (Gard. Chron. ii., 1887, p. 156; illustrated.)

Plantæ Novæ Hispaniæ.—Martinius Sessé et Ioseph Mariannus Mociño. (La Naturaleza, II Ser., i., pp. 16.)

In this valuable Mexican periodical we find a list of plants dating from the time of Chas. IV., which has been lying *perdido* in Spain and is now printed for the first time. The classification is the Linnæan, and the descriptions are in Latin. The title page announces plates from the original drawings, but there are none in this number.

Plants of the Island of Rhode Island—Native, III.—W. C. Rives, Jr. and W. W. Bailey. (Proc. Newport Nat. Hist. Soc., 1886-'87, pp. 32-35.)

This completes the list begun in a former number.

Potamogeton Mexicanus, Bennett. (Journ. Bot., xxv., p. 289.)

This new Potamogeton belongs to the same group as *P. fluitans*, with a fruit resembling *P. tricarinatus* but much larger.

P. Claytonii, Tuck. (Silliman's Journ., 1843,) is antedated by *P. Pennsylvanicus*, Cham. (Linnæa, 1827,) as specimens "in Willdenow's herbarium at Berlin, are named by Chamisso and intialled by Prof. Tuckerman as his *Claytonii*."

Proterogyny in Datura meteloides.--J. Schneck. (Bot. Gaz., xii., pp. 223, 224.)

Psilotum triquetrum, Sw. (Gard. Chron., ii., p. 191; illustrated.)

Tokutaro Ito gives an account of the varieties of this Cryptogam which are used for ornamental house plants in Japan, and gives a series of sketches of these forms.

Report of the Botanist to the Board of Regents of the University of the State of New York for 1885.—Chas. H. Peck. (39th Ann. Rep. Trustees State Mus. Nat. Hist., pp. 30-73; two plates.)

Professor Peck's present report is as interesting as those that have preceded it, all valuable contributions to the Flora of New York. 120 species new to the herbarium, and 84 supplementing those already represented, all from this State, were mounted during 1885. 110 of the new ones are Fungi collected by Mr. Peck himself. Of plants not before reported are *Solidago speciosa*, Nutt., from Brunswick, Rensellaer Co., and *Eragrostis Frankii*, Meyer, from Troy, both communicated by Dr. Howe, and a large number of Fungi, among which are new species in the genera, *Agaricus*, *Russula*, *Boletus*, *Clavaria*, *Tremella*, *Phyllosticta*, *Phoma*, *Dendrophoma*, *Sphæropsis*, *Coniothyrium*, *Septoria*, *Rhabdospora*, *Zythia*, *Pestalozzia*, *Godronia*, *Læstadia*, *Sphærella*, *Diaporthe* and *Leptosphæria*.

Under "Remarks and Observations" are a number of notes on new stations and peculiarities of several species. There is also a critical revision of New York species of the fungus genera *Pleurotis*, *Claudopus* and *Crepidotus*, in which a new species of the last named is given.

Report of the Botanist of the New York Agricultural Experiment Station.—J. C. Arthur. (2d Ed., 5th Ann. Rep. N. Y. Exp. Station, pp. 259-296; reprinted.)

Titles of papers contained in this report may be found in the Index to Current Literature in March BULLETIN.

Report of the Botanist, U. S. Dept. Agriculture, 1886.—George Vasey. (Rep. Comm. Agric., 1886, pp. 69-93; twenty-one plates; also reprinted.)

Dr. Vasey's present report deals with the following topics: History of the Division; Work on Grasses; Relation to other

Branches of the Department; some native Clovers, (*Trifolium fucatum, T. megacephalum, T. involucratum, T. stoloniferum* and *T. Carolinianum* described and figured). Mr. Crozier's contribution to the volume is on "Weeds of Agriculture," giving practical information to aid in the eradication of weeds and special attention to *Cnicus arvensis, Arctium Lappa, Xanthium Canadense, Ambrosia artemisiæfolia, Chrysanthemum Leucanthemum, Abutilon Avicennæ, Solanum Caroliniense, Echium vulgare, Rumex Acetosella, Lychnis Githago, Chenopodium album, Ranunculus acris, R. bulbosus, Barbarea vulgaris, B. præcox, Chelidonium majus* and *Capsella Bursa-pastoris,* all of which are figured.

Report of the Chief of Division of Forestry U. S. Department of Agriculture, 1886.—B. E. Fernow, (loc. cit., pp. 149-226; diagrams; also reprinted).

There is so much of scientific interest and practical suggestion in Mr. Fernow's report that we cannot hope to do it justice in the space at our command. Among the most important subjects discussed are "Forest Planting and Management in the United States;" it appears that there are as yet very few extensive forest plantations, though there are numerous small ones, forming in the aggregate quite a considerable area, and affording encouragement for the creation of new forests; however, "this hopeful prospect does not exist in regard to the remaining natural forests." The prosecution of biological studies of our timber trees is earnestly urged and an outline of the main points of inquiry is given; there is also a preliminary list of our ninety most important timber trees, with their distribution, quality and uses of wood and practical remarks on their planting.

Report of the Mycological Section, U. S. Department of Agriculture, 1886.—F. Lamson Scribner. (loc. cit., pp. 95-138; eight plates, maps and diagrams).

This paper contains the results of investigations conducted by Mr. Scribner on several injurious Fungi, among them *Peronospora viticola,* the Downy Mildew; *Uncinula spiralis,* the Powdery Mildew; *Physalospora Bidwellii,* the Black-rot; *Sphaceloma Ampelinum,* Arachnose; *Cercospora Apii,* Celery-leaf Blight; a species of *Cladosporium,* the Orange-leaf Scab., and *Phytoph-*

thora infestans, Potato-rot; there is more about Pear Blight written by Dr. J. C. Arthur, and a chapter on *Scoleotrichum graminis*, a disease of Orchard Grass, by Prof. Trelease. All these Fungi are figured.

Report on Botanical Work in Minnesota for the year 1886.—J. C. Arthur and others. (Geol. and Nat. Hist. Surv. Minn., Bull. No. 3, pamph. pp. 56, St. Paul, 1887).

Mr. Warren Upham's valuable catalogue of the Minnesota Flora is here admirably supplemented by the report of work in the Vermillion Lake district made up of: (1). Sketch of the Flora of Vermillion Lake and vicinity, by Prof. L. H. Bailey, Jr.; (2). A list of plants collected between Lake Superior and the International Boundary, by Professors Arthur, Bailey and Mr. E. W. O. Holway in which we note *Littorella lacustris*, a new variety of *Salix lucida* and *Carex penguis*, Bailey, n. sp. Dr. Beal determined the grasses, Prof. Barnes the mosses and Prof. Underwood the hepatics. A large number of Thallophyta and Protophyta are enumerated, among the latter *Synchytrium Asari*, Arthur and Holway, n. sp. (3). Plants observed or collected on the Bluff at Duluth, by Prof. Bailey. (4). Supplement to the Flora of Minnesota, in which Mr. Warren Upham brings together the additions to the State Flora, corrections and new localities, and (5). Prof. Bailey gives a list of species noted on Hunter's Island, British America.

Sarraceniaceaœ or Pitcher Plants.—Observations on the. John Kruttschnitt. (Papers New Orleans Acad. Sci., i., pp. 81-84).

Descriptions of the glands, which are also roughly figured, and of the foot of a fly. "The fly has evidently a task to perform in connection with the Sarraceniaceæ; it consists in exciting the plant to certain actions by the gentle friction exerted by the padded foot of the fly." And as an objection to the theory of development, "the Sarraceniacæ after it has obtained its full growth is brought into intimate connection with the fly; but the fly derives apparently no advantage from the Sarraceniacæ!"

Structure of certain Timber Ties; Behavior and Causes of their Decay in the Roadbed. P. H. Dudley, (U. S. Dept. Agric., Forestry Division, Bull. No. 1., pp. 31-65; nineteen plates).

We find here collected the results of Mr. Dudley's prolonged studies on native woods used for railroad ties and the fungi which destroy them, portions of which he has given before this club and other organizations. The plates are reproductions of his wonderful photomicrographs, and in most cases are excellent. The woods discussed and illustrated are those of *Quercus alba*, *Castanea vulgaris*, var. *Americana*, *Chamæcyparis sphæroidea*, *Pinus palustris*, *Tsuga Canadensis*, *Larix Americana* and *L. occidentalis*.

Walking-fern in Iowa.—W. R. Lighton. (West Amer. Sci., iii., p. 193.)

Describes the occurrence of *Camptosorus* on sandstone near Ottumwa, Wapello Co.

Botanical Notes.

On a Fossil Marine Diatomaceous Deposit from Oamaru, New Zealand.—E. Grove and G. Sturt, F.F.R.M.S. (Journal of the Quekett Microscopical Club, Sept., '86, Jan., '87, May, '87, Aug., '87; pp. 50; seven plates, containing 123 figures.)

This series of papers, just completed, is a most valuable and exhaustive report upon this unique deposit. It would seem as though the microscopic life of these far away islands of the Pacific presents as strange and unexpected features as do the higher plant forms and the fauna of those regions. Altogether the authors have recorded 273 species found in the deposit. Of these, they have figured and described 118 species as new. This may appear to be a large number, but an acquaintance with the deposit, and a careful comparison of the species figured with actual specimens, will afford convincing testimony that the number is not too great. Indeed, one cannot help admiring the conscientious care which the authors have exhibited in the investigation, and their careful regard for the rights of other investigators. Not the least attractive feature of the paper is the plates, which are remarkably well executed. C. H. K.

Lichenotheca Universalis. Under this title Professor Hugo Lojka, of Budapest, had projected the issue of a series of specimens illustrating the lichen flora of the earth. He had enlisted as contributors a large number of botanists and collectors, and